

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in this patent application.

Listing of Claims

Claim 1 (Currently Amended): An information recording apparatus comprising:
a laser light source;
a dividing unit which divides a laser light emitted from the laser light source into two laser lights;
a one-dimensional spatial modulating unit which applies one-dimensional spatial modulation to one of the two divided laser lights based on recording information;
a recording optical system which fixedly positions and holds the laser light source, the dividing unit and the one-dimensional spatial modulating unit, and which irradiates the spatially-modulated laser light to a recording medium as a signal light and irradiates the other one of the two divided laser lights to the recording medium as a reference light, thereby to record the recording information on the recording medium; and
a moving unit which moves the recording medium with respect to the recording optical system such that an irradiation position of the signal light and the reference light relatively moves on the recording medium, wherein the recording optical system records the recording information while the moving unit is moving the recording medium,
wherein the one-dimensional spatial modulating unit comprises a grating configuration including a plurality of gratings, and
wherein the recording optical system positions the one-dimensional spatial modulating unit ~~is positioned~~ such that an alignment direction of the plurality of gratings is oblique with respect to a direction perpendicular to a moving direction of the recording medium at the irradiation position by the moving unit.

Claims 2 and 3 (Canceled).

Claim 4 (Currently Amended): The information recording apparatus according to claim 1, wherein the recording optical system positions the one-dimensional spatial modulating unit ~~is positioned~~ such that an alignment direction of irradiation images produced by the plurality of gratings is shifted, by a predetermined angle, with respect to the direction perpendicular to the moving direction of the recording medium by the moving unit.

Claim 5 (Currently Amended): The information recording apparatus according to claim 4, wherein the recording medium is the disc, wherein the moving unit rotates the disc, and wherein the recording optical system positions the one-dimensional spatial modulating unit ~~is positioned~~ such that the alignment direction of the irradiation images produced by the plurality of gratings has a predetermined angle with respect to the radial direction of the disc.

Claim 6 (Original): The information recording apparatus according to claim 1, further comprising a unit which controls a light quantity of the laser light from the laser light source based on the recording information.

Claim 7 (Canceled).

Claim 8 (Currently Amended): An information recording method for recording information by using a recording optical system which fixedly positions and holds a laser light source, a dividing unit and a one-dimensional spatial modulating unit, the method comprising:

a dividing process which divides, using the dividing unit, a laser light emitted from the ~~the~~ laser light source into two laser lights;

a modulating process which applies, by the one-dimensional spatial modulating unit, one-dimensional spatial modulation to one of the two divided laser lights based on recording information;

a recording process which irradiates the spatially-modulated laser light to a recording medium as a signal light and irradiates the other one of the two divided laser lights to the

recording medium as a reference light, thereby to record the recording information on the recording medium; and

a moving process which moves the recording medium with respect to the [[a]] recording optical system such that an irradiation position of the signal light and the reference light relatively moves on the recording medium, and wherein the recording process is executed while the recording medium is being moved by the moving process,

wherein ~~the modulating process uses~~ a one-dimensional spatial modulating unit comprises ~~comprising~~ a grating configuration including a plurality of gratings, and

wherein the recording optical system positions, during the modulating process, ~~positions~~ the one-dimensional spatial modulating unit such that an alignment direction of the plurality of gratings is oblique with respect to a direction perpendicular to a moving direction of the recording medium at the irradiation position by the moving process.

Claim 9 (Canceled).

Claim 10 (Previously Presented): An information recording medium on which the recording information is recorded by the information recording method according to claim 8.

Claim 11 (Currently Amended): An information recording apparatus comprising:
a laser light source;

a one-dimensional spatial modulating unit which applies one-dimensional spatial modulation to a laser light emitted from the laser light source based on recording information;

a recording optical system which fixedly positions and holds the laser light source and the one-dimensional spatial modulating unit, and which irradiates a light mainly including a luminance component of the spatially-modulated laser light to a recording medium as a reference light and irradiates a light mainly including a phase component of the spatially-modulated laser light to the recording medium as a signal light, thereby to record the recording information on the recording medium; and

a moving unit which moves the recording medium with respect to the recording optical system such that an irradiation position of the signal light and the reference light relatively

moves on the recording medium, wherein the recording optical system records the recording information while the moving unit is moving the recording medium,

wherein the one-dimensional spatial modulating unit comprises a grating configuration including a plurality of gratings, and

wherein the recording optical system positions the one-dimensional spatial modulating unit ~~is positioned~~ such that an alignment direction of the plurality of gratings is oblique with respect to a direction perpendicular to a moving direction of the recording medium at the irradiation position by the moving unit.

Claim 12 (Canceled).

Claim 13 (Currently Amended): The information recording apparatus according to claim 11, wherein the recording optical system positions the one-dimensional spatial modulating unit ~~is positioned~~ such that an alignment direction of the irradiation images produced by the plurality of gratings is shifted, by a predetermined angle, with respect to the direction perpendicular to the moving direction of the recording medium by the moving unit.

Claim 14 (Original): The information recording apparatus according to claim 11, further comprising a unit which controls a light quantity of the laser light from the laser light source based on the recoding information.

Claim 15 (Currently Amended): An information recording method for recording information by using a recording optical system which fixedly positions and holds a laser light source and a one-dimensional spatial modulating unit, the method comprising:

a modulating process which applies, by the one-dimensional spatial modulating unit, one-dimensional spatial modulation to a laser light emitted from the ~~the~~ laser light source based on recording information;

a recording process which irradiates a light mainly including a luminance component of the spatially-modulated laser light to a recording medium as a reference light and irradiates a light mainly including a phase component of the spatially-modulated laser light to the recording

medium as a signal light, thereby to record the recoding information on the recording medium;
and

a moving process which moves the recording medium with respect to the ~~the~~ recording optical system such that an irradiation position of the signal light and the reference light relatively moves on the recording medium, wherein the recording process is executed while the recording medium is being moved by the moving process,

wherein ~~the modulating process uses~~ a one-dimensional spatial modulating unit comprises ~~comprising~~ a grating configuration including a plurality of gratings, and

wherein the recording optical system positions, during the modulating process, ~~positions~~ the one-dimensional spatial modulating unit such that an alignment direction of the plurality of gratings is oblique with respect to a direction perpendicular to the moving direction of the recording medium at the irradiation position by the moving process.

Claim 16 (Previously Presented): An information recording medium on which the recording information is recorded by the information recording method according to claim 15.

Claims 17-20 (Canceled).